

Appl. No. 09/629,170
Amdt. dated August 10, 2004
Reply to Office Action of May 11, 2004

Remarks

The present amendment responds to the Official Action dated May 11, 2004. The Official Action rejected claims 1, 2, 3, 13 and 15 under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. Claims 1-3, 6-8, and 13-19 were rejected based on Green U.K. Patent Application GB 2306025 ("Green") in view of Jones U.S. Patent No. 5,832,458 ("Jones") and in further view of Engler et al. U.S. Patent No. 6,633,851 ("Engler"). These grounds of rejection are addressed below following a brief discussion of the present invention to provide context.

Claims 1, 6, and 16 have been amended to be more clear and distinct. Claim 1 has been amended to address the 35 U.S.C. §101 rejection as described in more detail below. The amendment to claims 1, 6, and 16 include moving the associating step above the recording a retail performance metric record step and converting the storing step to a utilizing step. Claims 23-26 have been added to cover certain aspects of the present invention. Claims 1-3, 6-8, 13-19, and 23-25 are presently pending.

The Present Invention

The present invention relates generally to a method and apparatus for generating and storing retail performance metrics (RPMs) of events which take place at a point of sale (POS) terminal in order to use these metrics in evaluating the performance of a cashier.

Before this invention, calculating cashier performance typically relied on gross categories such as itemization, payment, and sign off. Itemization, for example, included time spent

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scanning an item, identifying an item, weighing an item, entering a quantity of items, voiding an item, redeeming coupons and any other event which did not involve the cashier receiving payment for a transaction. The payment category included time for a cashier to receive payment. The sign off category included time where no cashier was signed on to a POS terminal. As a result of this type of broad time measurement, only a portion of the time spent in each of the categories is under the direct control of the POS terminal operator. For example, the operator controls how quickly items are scanned and tenders are inputted but has no control over other actions that contribute to these time measurements. Such additional factors contributing to the time measurements include the bar code quality in the product mix presented to the operator, the types of error warning levels configured in the store, and the various tender validation requirements active at the store. For example, a store may have a policy requiring that all checks be presented accompanied by at least two pieces of identification, or the bar code on certain products may not be of the same quality as other products and may require multiple scan attempts or keyed input for entry of the product. The additional time required is unable to be separated from the category times and viewed or analyzed independently or on a per entry basis.

Additionally, in these previous systems, individual scanning times were obtained through averaging the entire itemization time over the count of scanned items. Such approach was inaccurate because of the additional factors contributing to time measurements discussed above. Thus, there is a need in the art to enable tracking of individual occurrences within the defined categories.

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In one aspect of the present invention, the RPM is determined by recording the time the POS system began waiting for an input event during a retail transaction in an entry record. Upon receiving input, the RPM type is determined based on what kind of input is received by the system. For example, the RPM type may be the scan of an item, the weighing of an item, a key operation, or the like. Many events may occur during the course of a transaction. An RPM record, including the time and type of input recorded, is stored in a transaction log associated with the transaction entry. RPMs are recorded for a plurality of input events which occur during a transaction. Thus, the techniques of the present invention allow a retailer to accumulate a detailed transaction log of multiple different events occurring at each POS terminal in order to identify deficiencies and potential cashier performance problems. For example, a record of a series of scans requiring an inordinate amount of time may indicate a cashier who needs more training or a scanner which needs cleaning or repair.

Referring to Fig. 3a and page 18, line 6 – page 19, line 7 of the present specification, an exemplary embodiment is described in which an entry record 314 is written to a transaction log recording a key action in response to an event generated by a cashier pressing a key. The entry record 314 contains an entry identifier (ID) XX07. An RPM record 316 also having entry ID XX07 is written to the transaction log upon the completion of the cashier keying in the product code of a purchased item. The RPM record 316 is associated with the entry record through entry ID XX07 and contains an elapsed time of 55 seconds as shown in time field 306 for keying in the purchased item. Multiple retail performance records may be associated with one entry record. For example, each product item being purchased which is keyed by the cashier may be recorded

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as well as each product item which is scanned by the cashier may be separately recorded. Thus, allowing a retailer, for example, to evaluate variations in data resulting from a cashier scanning or keying in different products.

In another aspect of the present invention, the entry record and performance metric record are both advantageously written to the same transaction log. By writing both records to the same transaction log, a retailer is provided with accurate counts of the number of occurrences as well as the duration of the time spent in an action. With this data, the retailer can analyze the variability of the data as well as a final summation of the data. Present specification, page 23, lines 4-8. See also page 24, lines 6 et seq. for further advantages of writing these two records to the same transaction log.

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35 U.S.C. Sec. 101 Rejection of Claims 1, 2, 3, 13 and 15

The Official Action suggests that the present claims are not statutory subject matter on two counts. First, the Official Action suggests that “claim 1 recites evaluating the performance of a cashier at a POS station, which could be interpreted as a street vendor performing a sales transaction without involving or using technology.” (emphasis added) Although Applicants do not acquiesce in this analysis, claim 1 has been amended clarify the receiving step to include receiving “computer data.” Further, claim 1 has been amended to clarify the recording step to “recording an entry record into memory of the POS station.” The steps in claim 1, as presently amended, clearly recite steps that are performed by a computer which are useful in accumulating data to evaluate a cashier and thus claims 1, 2, 3, 13, and 15 are statutory subject matter.

Second, the Official Action suggests that the “tender operation can be performed by a street vendor without the use of technology.” Applicants respectfully disagree on the same basis of analysis as described above. However, in the interest of expediting prosecution, the term “tender operation” has been removed from claim 1.

The Art Rejections

As addressed in greater detail below, Green, Jones, and Engler do not support the Official Action’s reading of them and the rejections based thereupon should be reconsidered and withdrawn. Further, the Applicants do not acquiesce in the analysis of Green, Jones, and Engler

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made by the Official Action and respectfully traverse the Official Action's analysis underlying its rejections.

Claims 1-3, 6-8, and 13-19 were rejected based on Green in view of Jones and in further view of Engler. Green describes a color-categorized POS station clerk performance evaluation method. Green's method includes the steps of categorizing the POS station clerks into groups in accordance with various categorizing criteria, selecting visible display characteristics specific to each of the categories, providing a display of all participating POS station clerks per their different identities, conforming the display to evidence the selected visible display characteristics, storing transaction information from all participating POS stations with clerk identities, and displaying transaction information through user interaction with the conformed display. Green, page 2, lines 14-23. Green's method merely provides categories to which clerks are assigned and allows a user to display the contents of such categories to visualize the current status of clerk. As admitted in the Official Action, Green does not teach any specific retail performance metrics as being calculated and recorded with the transaction.

Jones fails to cures the deficiencies of Green. Jones describes a system and method for electronically auditing coupon redemption by retailers who commonly electronically redeem coupons, regardless of whether they also electronically validate these coupons. Jones, col. 4, lines 6-10. Jones' system includes disposing a non-invasive automated electronic auditing system in each retail store "for monitoring the point-of-sale system in a substantially totally passive manner and for collecting a copy of each retail sales transactions on the point-of-sale system." Jones, col. 4, lines 23-28. In operation, Jones' electronic audit system records

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passively and independently, outside the scope of the POS system transaction, information including the function type such as a scanning operation, UPC characters, and the quantity of items purchased into an audit transaction database. Jones, col. 9, line 60 – col. 10, line 7. This transaction information represents information of “a typical retail sales transaction that is recorded by electronic audit system.” Jones addresses an entirely different problem of automating coupon redemption to eliminate misuse of retail transactions involving coupon fraud than the problems addressed in the present invention. Toward the end of coupon redemption, Jones stores typical retail transaction information such as total transaction times which contrasts with the present invention which tracks times for each individual occurrence of scanning, weighing and the like.

Unlike Jones and Green, the present invention determines and records a retail performance metric for each event occurring at POS stations including the time elapsed waiting for and receiving a specific input. A first event occurring at the POS station is either a scanner reading a bar code, a scale weighing an item, or a cashier pressing a key on the POS station. After an occurrence of the first event, computer data is received to indicate the occurrence of the first event. An entry record is recorded into memory of the POS station in response to the computer data received. A retail performance metric and a retail performance metric type based on the computer data received is determined in at the POS station for the first event. The retail performance metric record is associated with the entry record and recorded. Further, the same steps of receiving computer data, determining a retail performance metric, associating the retail performance metric with the entry record, recording the retail performance metric record are

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performed for a second event during the same transaction providing advantageous records for each granular event occurring at the POS station.

Thus, individual retail performance metrics such as individual scanning times of products become more accurate and the recording of individual occurrences such as scanning times provide a mechanism for eliminating statistical outlying points which negatively impact the performance evaluation of a cashier. For example, the time scanning dog food bags far exceeds the average time scanning products because the cashier typically has to either walk around the checkout line to scan the dog food at the bottom of a shopping cart or require the customer to lift the dog food onto the checkout counter. With the present invention of accumulating performance metric records for each event occurrence, the time a cashier spends scanning dog food may be easily identified and not considered when analyzing the accumulated performance records.

By way of example, referring to Fig. 3a and page 18, line 6 – page 19, line 7 of the present specification, an entry record 314 is written to a transaction log recording a key action in response to an event generated by a cashier pressing a key. The entry record 314 contains an entry identifier (ID) XX07. An RPM record 316 also having entry ID XX07 is written to the transaction log upon the completion of the cashier keying in the product code of a purchased item. The RPM record 316 is associated with the entry record through entry ID XX07 and contains an elapsed time of 55 seconds as shown in time field 306 for keying in the purchased item. Multiple retail performance records may be associated with one entry record. For example, each product item being purchased which is keyed by the cashier may be recorded as well as each product item which is scanned by the cashier may be separately recorded. Thus,

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allowing a retailer, for example, to evaluate variations of a cashier's performance in scanning different types of products or to eliminate scan times of products which statistically over influence a cashier's performance.

Jones and Green, separately or in combination, do not teach and do not suggest "recording an entry record into memory of the POS station in response to the computer data received, the entry record including a time stamp; determining a retail performance metric and a retail performance metric type based on the computer data received at the POS station; associating the retail performance metric record with the entry record; recording a retail performance metric record including the retail performance metric and the retail performance metric type during a transaction, the retail performance metric including the time elapsed waiting for and receiving computer data; repeating the steps of receiving computer data for a second event during the transaction, determining a retail performance metric for the second event, associating the retail performance metric record for the second event with the entry record, and recording the retail performance metric record for the second event during the transaction; and utilizing the recorded retail performance metric records in evaluating the performance of the cashier operating the POS station" as presently claimed.

The Official Action suggests at col. 10, lines 13-18 and lines 54-57 of Jones as purportedly teaching associating a retail performance metric record with an entry record. In so doing, the Official Action attempts to equate "extremely high coupon activity, extremely fast total transaction times and high frequency of manual overrides" with a retail performance metric. (emphasis added) Applicants respectfully disagree with this analysis. The total transaction time

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is at a higher level of granularity than the time elapsed waiting for and receiving input as presently claimed in claims 1, 6, and 16. Referring to col. 5, lines 51-64 of Jones, Jones system records time of day and the date of the retail transaction. However, Jones does not teach and does not suggest recording the "time elapsed waiting for and receiving the computer data" as recited in claim 1 as presently amended or the "time elapsed waiting for and receiving input" as claimed in claims 6 and 16. The Official Action even admits that Green and Jones do not teach the actual calculation of a performance metric and storing the calculated metric with a transaction record. Since the elements of a retail performance metric and the times tracked in the present invention are distinct over Jones, the Official Action's analysis of applying Jones as "associating the retail performance metric record with the entry record" is not relevant.

Although the inventions of Green and Jones involve point-of-sale systems, the disparate problems addressed by these references such as color-categorizing clerks in a display to evaluate clerk performance and an auditing system for tracking coupon redemption do not properly suggest a motivation to combine. For the sake of argument, if Green and Jones were combined, the resulting system still would not teach and would not suggest the recorded retail performance metrics as presently claimed.

Engler fails to cure the deficiencies of Green and Jones. Engler describes systems and methods for generating custom reports based on point-of-sale data. Referring to Fig. 1 and col. 4, lines 33-38 of Engler, Engler's system generates reports based on point-of-sale data transferred over the Internet from multiple remote computing devices to a central computing device. Engler's system depends on whatever data is generated from the point-of-sale terminals. Engler

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does not address how or what specific data is generated during the transaction. Engler's system merely provides users a variety of reports limited by the data provided to Engler's system. Specifically, Engler, Jones, and Green, separately or in combination, do not teach and do not suggest "receiving computer data indicative of an event occurring at the POS station, wherein the event occurring at the POS station is a scanner reading a bar code, a scale weighing an item, or the cashier pressing a key on the POS station; recording an entry record into memory of the POS station in response to the computer data received, the entry record including a time stamp; determining a retail performance metric and a retail performance metric type based on the computer data received at the POS station; associating the retail performance metric record with the entry record; recording a retail performance metric record including the retail performance metric and the retail performance metric type during a transaction, the retail performance metric including the time elapsed waiting for and receiving the computer data; associating the retail performance metric record with the entry record; repeating the steps of receiving computer data for a second event during the transaction, determining a retail performance metric for the second event, associating the retail performance metric record for the second event with the entry record, and recording the retail performance metric record for the second event during the transaction; and utilizing the recorded retail performance metric records in evaluating the performance of the cashier operating the POS station" as presently claimed in claim 1. (emphasis added)

Additionally, Engler, Jones, and Green, separately or in combination, do not teach and do not suggest the computer implemented system of claim 6 and the computer-readable medium of claim 16 which have many of the same features as claim 1.

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With regard to new claims 23-25, an entry record is recorded separately into the same transaction log as the retail performance metric. The present invention advantageously writes both the retail performance metric and the entry record into the same transaction log to provide a retailer with accurate counts of the number of occurrences as well as the duration of the time spent in an action. With this data, the retailer can analyze the variability of the data as well as a final summation of the data. Present specification, page 23, lines 4-8. See also page 24, lines 6 et seq. for further advantages of writing these two records to the same transaction log. Green, Jones, and Engler do not teach and do not suggest recording an entry record and a performance metric record in the same transaction log as claimed in claims 23-25.

With regard to new claim 26, a method for evaluating the performance of a cashier operating a POS station is claimed. Claim 26 highlights the capturing of individual timing information for at least two retail performance metrics for two different events occurring at the POS station within one transaction. The first event has scanner information received when the cashier scanned a first item. The second event has weight information received when the cashier used a scale to weigh a second item in the same transaction.

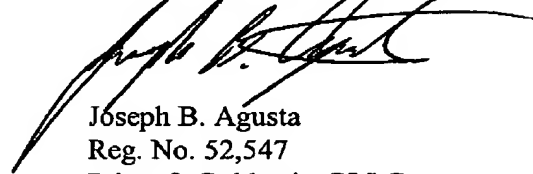
The relied upon references fail to recognize and address the problems in the manner advantageously addressed by the present claims. The claims as presently amended are not taught, are not inherent, and are not obvious in light of the art relied upon.

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Conclusion

All of the presently pending claims, as amended, appearing to define over the applied references, withdrawal of the present rejection and prompt allowance are requested.

Respectfully submitted,



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